

**Remarks/Arguments**

Applicants have received and carefully reviewed the Office Action of the Examiner mailed August 10, 2009. Currently, claims 1-44 remain pending. Claims 1-44 have been rejected. Although Applicants do not agree with the Examiner's interpretation of claims 11 and 26, which refer to a taper of the coil assembly as a whole, as failing to further limit the subject matter of a previous claim, they have been canceled to further prosecution. With respect to the objection to claim 41, attention is directed to the facts that claim 31 refers to the inner diameters of the coils while claim 41 refers to the diameters of the coil sections themselves, which may be equal while the inner diameters differ. Accordingly it is believed that claim 41 properly further limits the previous claim 31 from which it depends and Applicants respectfully request that the objection be withdrawn. Claims 1, 16, and 31 have been amended to further clarify relationships among the elements of the respective claims. Favorable consideration of the following remarks is respectfully requested.

**Claim Rejections – 35 USC § 103**

Claims 1, 5-7, and 11-13 were rejected under 35 U.S.C. 103(a) as being unpatentable over Fleishhacker et al. (U.S. Patent No. 6,210,395), hereinafter Fleishhacker, in view of Samson et al. (U.S. Patent No. 6,143,013), hereinafter Samson. After careful review, Applicant must respectfully traverse this rejection.

"All words in a claim must be considered in judging the patentability of that claim against the prior art." *In re Wilson*, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970). (MPEP § 2143.03). Nowhere does Fleishhacker appear to disclose "wherein the coil assembly has a first generally cylindrical section having a first inner diameter that is greater than or equal to the outer diameter of the shaft in that portion of the shaft proximally adjacent to the coil assembly" as recited in the currently amended claims 1, 16, and 31. Instead, both coils M and N are depicted in the cited Fig. 24 as having an inner diameter that is less than the outer diameter of the shaft (101) to which they are attached necessitating the creation of "reduced diameter" portion (102) which is

identified as such by Fleishhacker at col. 18, lines 66-67. Indeed, the two coils each have inner diameters which are less than the outer diameter of the intermediate portion (104) of the shaft (101) which forms that portion of the shaft proximally adjacent to the coil assembly. Accordingly, Fleishhacker does not appear to teach or disclose coils of the appropriate diameter.

Furthermore, in the Office Action, the Examiner acknowledges that Fleishhacker fails to teach a second generally cylindrical section having a second inner diameter greater than the first inner diameter, and a tapering between the first and second cylindrical sections. The Examiner then turns to Samson in an attempt to provide the missing elements of the pending independent claims; however disclosure of Samson does not appear to provide a first and second coil, second coil being wound in a second direction and disposed about an outer surface of the first coil. Instead, Samson appears to disclose braids rather than coils. Figure 3 of Samson appears to depict a single, continuous braid (206) having a taper. The larger diameter portion (210) is said to differ from the smaller diameter section (212) of the same braid by a change in the braid angle. (See col. 13, lines 51-54.) There does not appear to be a second coil disposed about an outer surface of a first coil as the two strands of the single braid alternate in radial displacement and so there appears to be no basis for designating either strand of the single braid layer as the inner coil about the outer surface of which the second coil is wound. Both strands of the single braid layer appear to be the inner and outer strands.

Samson appears to be silent with regard to the direction of the taper of the braid of Fig. 3; however the Examiner has thoughtfully indicated that the "coil" of Samson can be attached to shaft (232 or 252) in the manner of Figs. 7 and 8 thereby providing directionality and indicating that the braids of Samson are proximal braids rather than disposed about the distal end of the catheters of Samson. It must be noted that element (232) of Fig. 7 is identified as the distal section of catheter (224) and that section does not appear to include a shaft. As depicted in Fig. 7, the single braid layer, presumably corresponding to the single braid cited Fig. 3, does not appear to have two cylindrical coil sections (sections 228 and 230 of that catheter appear to differ only with respect to modulus of liners 234 and 236) or a tapered section; however it does appear to be disposed within shrink wrap tubing (238), rather than about the outer surface of the distal

end of a shaft, said shrink wrap tubing comprising the identified distally tapering section (232) asserted by the Examiner to correspond to a shaft.

Similarly, element (252) of Fig. 8 is the distal portion (252) of a polymeric tubing (254) within which inner braid (244) is located. Even if one accepts the Examiner's assertion that the polymeric tubing (254) corresponds to the shaft of the pending claims, Samson appears to disclose a single layer of braid disposed within a "shaft" and a second single layer of braid disposed about the exterior of that shaft with no taper in either braid and no first and second cylindrical sections the second of which is wound about the outer surface of the first. Further, the braids appear to be confined to the proximal portions of the catheters of Samson where they impart additional stiffness which would be undesirable in the distal portions of the catheters of Samson and thus one of ordinary skill in the art would not turn to Samson for a construction to be used at the distal end of a catheter. (See col. 14, lines 48-55 and col. 15, lines 1-10.)

For at least these reasons, Fleishhacker in view of Samson does not appear to disclose all elements of independent claim 1 and one of ordinary skill in the art would not be motivated to combine those elements which do appear to be present in a manner suggested by the Examiner and contrary to the disclosure of Samson. Accordingly, Applicants respectfully request that the rejection of claim 1 be withdrawn.

If an independent claim is nonobvious under 35 U.S.C. 103, then any claim depending therefrom is nonobvious. *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988). (MPEP 2143.03)

Accordingly, claims 5-7 and 11-13, which depend from nonobvious independent claim 1, also are believed to be nonobvious and Applicants respectfully request that the rejections be withdrawn.

Further, it should be noted that claim 13 is not a product-by-process claim for the reason that no process step is recited. Instead, claim 13 specifies a characteristic of the material interposed between the coil assembly and its structural relationship (bonded) to the components recited without specifying a process which places the material in that location. For example, there is no heating step.

Claims 2-4 and 8-10 were rejected under 35 U.S.C. 103(a) as being unpatentable over Fleishhacker in view of Samson and in view of De Mello et al. (U.S. Patent No. 5,429,597), hereinafter DeMello. After careful review, Applicant must respectfully traverse this rejection.

De Mello is introduced for the purpose of providing multifilar coils and a coil having a rectangular cross-section, features acknowledged by the Examiner to be absent from Fleishhacker and Samson. Nothing in DeMello appears to overcome the deficiencies of Fleishhacker and Samson as applied to claim 1. Accordingly, claims 2-4 and 8-10, which depend from nonobvious independent claim 1, also are believed to be nonobvious and Applicants respectfully request that the rejections be withdrawn.

Claims 14 and 15 were rejected under 35 U.S.C. 103(a) as being unpatentable over Fleishhacker in view of Samson and in view of Chien et al. (U.S. Patent No. 6,165,163), hereinafter Chien. After careful review, Applicant must respectfully traverse this rejection.

Chien is introduced for the purpose of providing polymer coated wires, a feature acknowledged by the Examiner to be absent from Fleishhacker and Samson. Nothing in Chien appears to overcome the deficiencies of Fleishhacker and Samson as applied to claim 1. Accordingly, claims 14 and 15, which depend from nonobvious independent claim 1, also are believed to be nonobvious and Applicants respectfully request that the rejections be withdrawn.

Claims 16, 20-22, 26-28, 31, 35-37, 41, and 42 were rejected under 35 U.S.C. 103(a) as being unpatentable over Ginsburg (U.S. Patent No. 4,873,978) in view of Fleishhacker and Samson. After careful review, Applicant must respectfully traverse this rejection.

The Examiner acknowledges that Ginsburg is silent with regards to the elongate shaft comprising a coil assembly and turns to Fleishhacker and Sampson to supply this missing element. As discussed above in detail, Fleishhacker and Sampson do not appear to disclose a coil assembly having the recited characteristics and so the combination does not overcome the acknowledged deficiency of Ginsburg as applied to independent claims

16 and 31. Applicants respectfully request that the rejection of independent claims 16 and 31 be withdrawn.

Claims 20-22, 26-28, 35-37, 41, and 42, which depend from nonobvious independent claims 16 and 31 respectively, also are believed to be nonobvious and Applicants respectfully request that the rejections be withdrawn.

Claims 17-19, 23-25, 32-34, and 38-40 were rejected under 35 U.S.C. 103(a) as being unpatentable over Ginsburg in view of Fleishhacker and Samson and in view of DeMello. After careful review, Applicant must respectfully traverse this rejection.

De Mello is introduced for the purpose of providing multifilar coils and a coil having a rectangular cross-section, features acknowledged by the Examiner to be absent from Fleishhacker and Samson. Nothing in DeMello appears to overcome the deficiencies of Ginsburg, Fleishhacker, and Samson as applied to independent claims 16 and 31. Accordingly, claims 17-19, 23-25, 32-34, and 38-40, which depend from nonobvious independent claims 16 and 31 respectively, also are believed to be nonobvious and Applicants respectfully request that the rejections be withdrawn.

Claims 29, 30, 43, and 44 were rejected under 35 U.S.C. 103(a) as being unpatentable over Ginsburg in view of Fleishhacker and Samson and in view of Chien. After careful review, Applicant must respectfully traverse this rejection.

Chien is introduced for the purpose of providing polymer coated wires, a feature acknowledged by the Examiner to be absent from Fleishhacker and Samson. Nothing in Chien appears to overcome the deficiencies of Ginsburg, Fleishhacker, and Samson as applied to independent claims 16 and 31. Accordingly, claims 29, 30, 43, and 44, which depend from nonobvious independent claim 16 and 31 respectively, also are believed to be nonobvious and Applicants respectfully request that the rejections be withdrawn.

In view of the foregoing, all pending claims are believed to be in a condition for allowance. Reconsideration and withdrawal of the rejections is respectfully requested. Issuance of a Notice of Allowance in due course is anticipated. If a telephone conference might be of assistance, please contact the undersigned attorney at (612) 677-9050.

Respectfully submitted,

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